

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004701**Date Inspected:** 19-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower & OBG**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

OBG Sub-Assembly Bay 1:

The QA Inspector observed 4 helpers utilizing angle grinders to blend tack welds attaching U-Ribs to Deck Plate 9EE-DP342-002 prior to welding Gas Metal Arc Welding (GMAW) root pass.

The QA Inspector randomly observed 4 ZPMC welders ID Numbers 059443/059468 and 059416/059378, utilizing the Gas Metal Arc Welding (GMAW) Process in 2G/2F Positions on Gantry 1 with ZPMC Weld Procedure Specification (WPS)-B-T 2342-U1(U-Rib)-4, to weld the U-Ribs to Deck Plate 9DZ-DP341-001 at Weld Joint (WJ) Numbers 001/002 and 005/006. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 367/732 amps, 31.8/30.5 volts (001/002) and 370/363 amps, 31.2/31.4 volts with a travel speed of 528 millimeters (mm) per minute. Weld parameters appeared to comply with contract requirements.

OBG Sub-Assembly Bay 2:

The QA Inspector randomly observed Magnetic Drill Operators drilling bolt holes in Skin Plate Stiffeners A709 HPS 485 piece marks A570 (E), A571 (E) and A572 (E).

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OBG Sub-Assembly Bay 3:

The QA Inspector randomly observed ZPMC welders Xiao Lin ID 049485 and Jia An Quan ID 201725, utilizing the Shielded Metal Arc Welding (SMAW) Process in 2F Position with ZPMC WPS WPS-B-P-2112-FCM, to tack weld T-Ribs during fit up to Bottom Plate BP094-001 at WJ's 043/044 & 047/048 respectively. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder He Yumei ID 048625 and Han Hong Wen ID 200149, utilizing the Flux Cored Arc Welding (FCAW) Process in the 3G Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld a butt splice on the flanges between sections of W21 X 57 I-Beams to be cut into T-Ribs for Bottom Plates BP127/PL771A and BP100/744A. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

OBG Bay 4:

The QA Inspector randomly observed ZPMC welders Dai Lu ID 048659 and Hang Xiao Feng ID 054467, utilizing the SMAW Process in the 2G/2F Positions with ZPMC WPS WPS-SMAW-2G/2F-FCM-Repair, to make weld repairs to the welds attaching I-Ribs to Side Plate SP459-001 WJ's 001 through 010. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder He Yumei ID 048625 and Han Hong Wen ID 200149, utilizing the FCAW Process in the 3G Position with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld a vertical butt splice on 71M (N) Tower Diaphragm SA 358 Flange Plate Assembly SA350 at WJ NSD1-SA358-6B between piece marks p1536 and p819. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC Non-Destructive Testing (NDT) Technician Wang Wei, utilizing the Magnetic Particle Testing (MT) Method to perform a final MT examination of the cover pass of the fillet welds on Bottom Plate Sub-Assemblies BP69A Yellow Tag 001712 (BP069-001 Location 8CE) WJ's 007 through 018 and 037 through 048; and BP96A Yellow Tag 001711 (BP096-001 Location 8CW) WJ's 007 through 018 and 037 through 048. There appeared to be no indications and ZPMC QC accepted all the above listed welds.

The QA Inspector performed a 10% final Visual Testing (VT) and MT verification on the cover pass of the fillet welds on Bottom Plate Sub-Assemblies BP69A Yellow Tag 001712/Green Tag 001740 – BP069-001 (8CE-D6) WJ's 007 through 018 & 037 through 048; and BP96A Yellow Tag 001711 Green Tag 001741 – BP096-001 (8CW-D6) WJ's 007 through 018 & 037 through 048. The attached photograph provides additional detail.

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Inspected By:	Franco,Charlie	Quality Assurance Inspector
Reviewed By:	Wright,Mark	QA Reviewer